

Geo 8.0

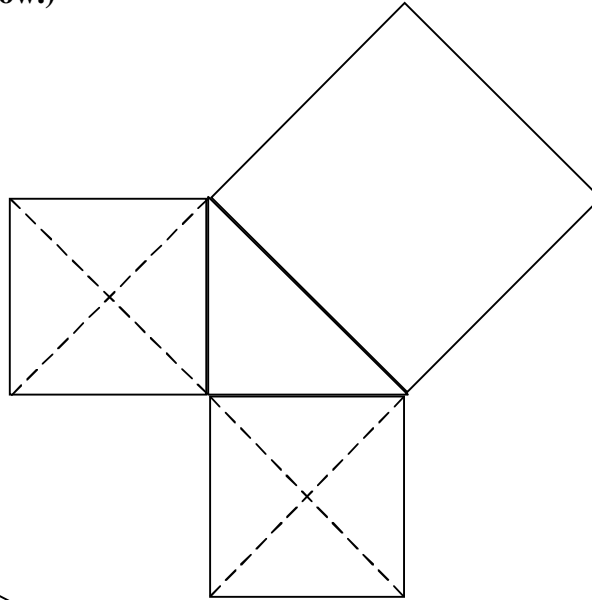
Discover and Write an Ancient Theorem

The following puzzles will help you prove an ancient geometry theorem. This theorem is the most famous theorem in all of geometry.

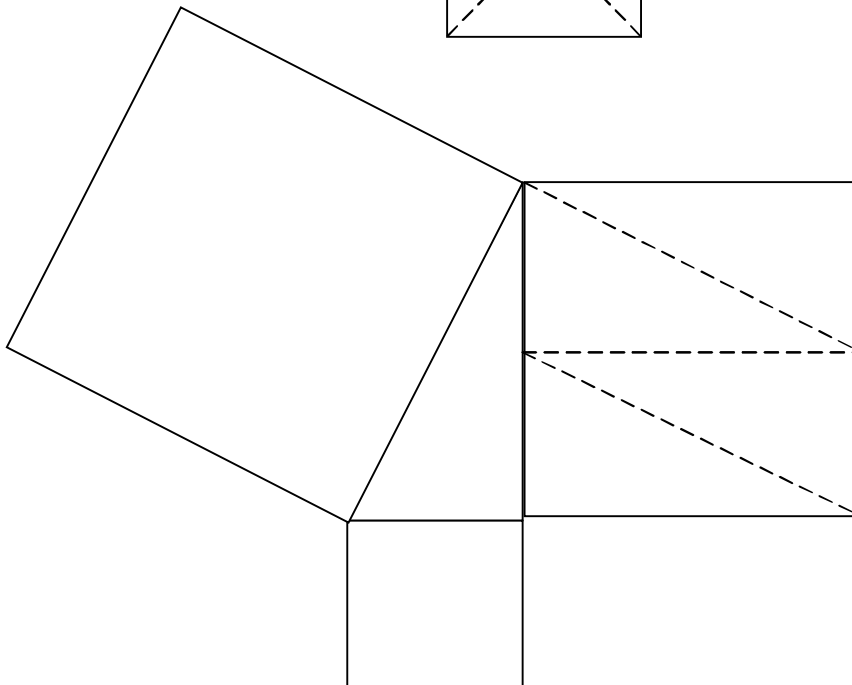
- Color in the triangles at the center of each drawing below.
- From the cutting sheet, cut the puzzle pieces for each problem below. You are cutting the two smaller squares formed off the two smaller sides of the triangle.
- Paste the puzzle pieces on the large square for each problem below

Write what you think the theorem is using your own words. Do not look in a geometry book. (See worksheet below.)

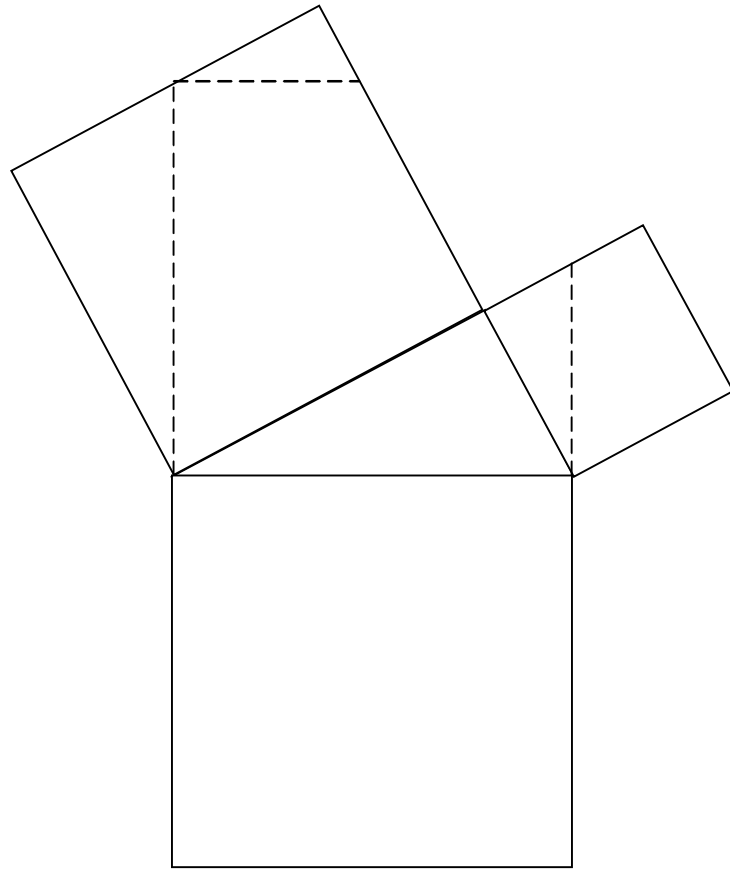
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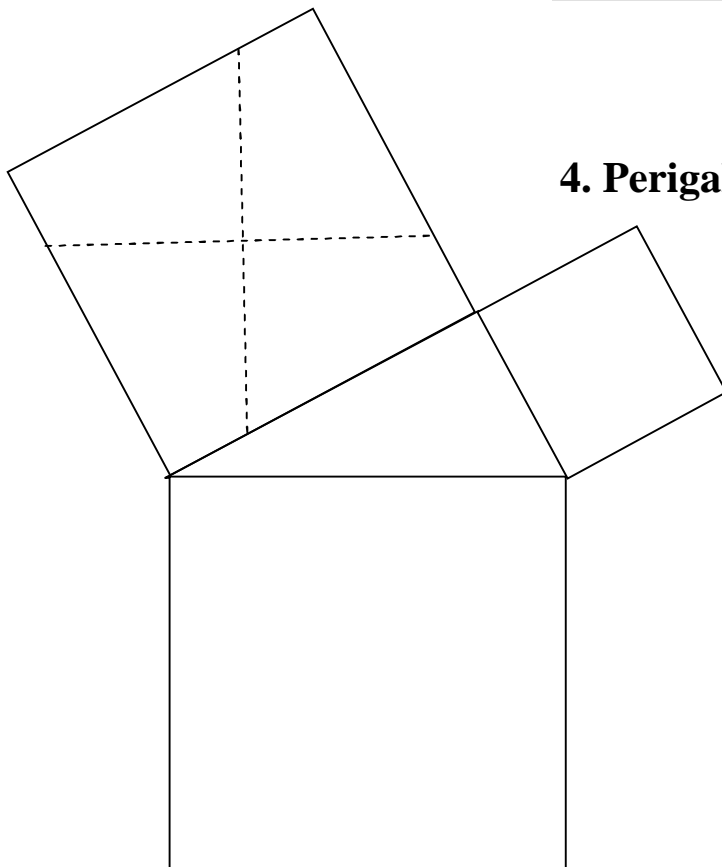
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3. Loomis' Proof

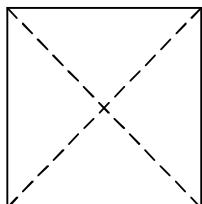
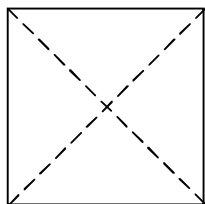


4. Perigal's Proof

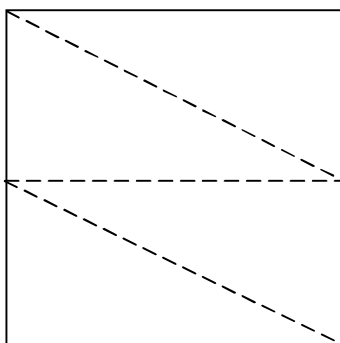
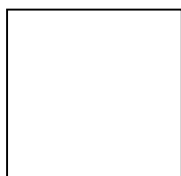


Pieces for Cutting

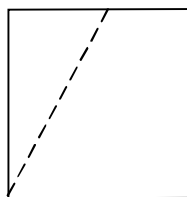
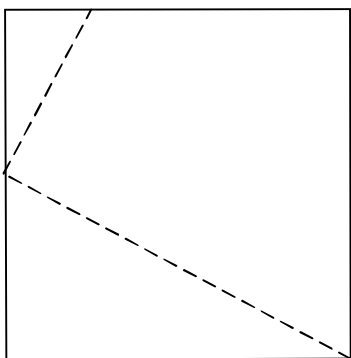
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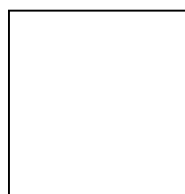
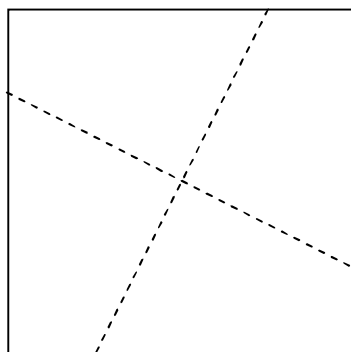
2.



3.



4.



Writing about the Pythagorean Puzzles

After fitting all the pieces onto the “hypotenuse square,” answer the questions below. Use your experience with the squares in your writing. *Hint:* If you feel it is difficult to answer a question, look at your cut ‘n’ paste and start describing what you see.

- 1) Explain what you found out by doing the Pythagorean puzzles. How are the three squares related?
- 2) Translate your writing from above into a mathematical equation. This would be your version of the Pythagorean Theorem. (Do NOT look in the book. If you need vocabulary to use in your writing, you may ask your teacher.)
- 3) Now look in your textbook. Compare your version of the theorem with the way the textbook wrote it. Write what you think.
- 4) How has this cutting activity helped you to understand the Pythagorean Theorem? Be specific.